

Physics 112 Syllabus

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Text: Physics 2000 (Part 1 , Part 2), Calculus 2000 by E.R. Huggins

Date	Topic	Readings	Exercises	Lab
Jan 19	Coulomb's law	24.1-24.5	1,3,4	NO LAB
21	Line of charge	24.6-24.9	5,6	
23	Electric Field	24.10-24.19	7	

26	Gauss' law	24.20-24.25	8,10	Electrostatic
28	Gauss' law	24.26-24.29	9,11	problems
30	Field plotting	25.1-25.12	2,4	

Feb 2	Conductors	26.1-26.10	1,3,4	Field
4	Conductors	26.11-26.17	6,7,10	plotting
6	Electric circuits	27.1-27.10	1	

9	Kirchhoff's laws	27.10-27.13	2,3	Charge/discharge
11	Capacitors	27.14-27.32	4,5,6	Of a capacitor
13	Magnetism	28.1-28.17	2,3	

16	Exam 1	Ch. 24-27		Magnetic field
18	Particles in B fields	28.18-28.23	4,5	Of a coil
20	Relativistic E & P	28.24-28.33	8,9,10	

23	Ampere's law	29.7-29.13	4,5,6	e/m
25	Ampere's law	29.14-29.18	7,8	
27	Faraday's law	30.1-30.10	1	

Mar 9	Faraday's law	30.11-30.20	2,3,4	Faraday's law
11	Faraday's law	30.21-30.26	5,6,8	And B force on a
13	Light	33.1-33.11	1,2,3,4	conductor

16	Diffraction grating	33.12-33.19	5,6,9	Spectrometer
18	Doppler & grating	33.20-33.30	10,13,14	
20	Photons	34.1-34.9	1,2,3	

23	Exam 2	Ch 28-33	Omit Ch 31,32	Diffraction of
25	Photons	34.10-34.32	4,6,7,10	slits
27	Bohr theory	35.1-35.12	1,2,5	

30	Bohr theory		7,8,9,10	x-ray
Apr 1	x-ray diffraction	36.1-36.7	1,2,3	diffraction
3	Electron diffraction	36.8-36.14	4,5,6	

6	Lasers	37(all)	1,2,4	Snell's law
8	Optics	Optics 1-18	1a,1b,2,3	
10	No Class			

13	No Class			No lab
15	Lenses	Optics18-30	6,7,8	
17	Lenses	Cont.	9,11,12,13	

20	Atoms	38.1-38.9	1,2	Lenses
22	Atoms	38.10-38.15	3	
24	Exam 3	Ch 34-Optics		

27	Nuclear matter	20.1-20.8	1	Radioactive
29	Nuclear matter	20.9-20.20		decay
May 1	Review & evaluation			

Hour exams =25 %

Final exam=25%

Quizzes and problem solutions=25%

Laboratory average=25%

Problem solutions are to be your own work and but cooperation with other students is permitted. Help with problems is available from the instructor, problem sessions and the evening help sessions (run by the Society of Physics Students). Office hours are posted but I am available at any time that I am not in class or working in a laboratory.

Attendance of lectures is important since new material, problem solutions, different approaches from that of the text and computer instructions will be presented during this time.

Students are not permitted to bring their calculators to exams. Scientific calculators will be provided at the exams by the Physics Department. If you wish, you may check out a calculator in order to become familiar with it.